



THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Appl. No. :** 10/061,341 **Confirmation No.** 4727  
**Applicant :** C. KATO et al.  
**Filed :** February 4, 2002  
**Title :** MIXED IRRADIATION EVALUATION SUPPORT SYSTEM  
**TC/AU :** 3737  
**Examiner :** Smith, Ruth S.  
**Docket No. :** TSM-19  
**Customer No.:** 24956

**PETITION TO MAKE SPECIAL  
INVENTIONS RELATING TO HIV/AIDS AND CANCER  
UNDER 37 CFR §1.102(d) (MPEP §708.02(X))**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The Applicants petition the Commissioner to make the above-identified application special in accordance with 37 CFR §1.102(d). In support of this Petition, pursuant to MPEP § 708.02(X), Applicants state the following.

**REQUIRED FEE**

This Petition is accompanied by the fee set forth in 37 CFR § 1.117(h). A Credit Card Payment Form in the amount of \$130 accompanies this Petition in satisfaction of the fee. The Commissioner is hereby authorized to charge any

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additional payment due, or to credit any overpayment, to Deposit Account No. 50-1417.

**STATEMENT EXPLAINING HOW THE INVENTION CONTRIBUTES TO THE  
TREATMENT OF CANCER**

The present invention relates to a particle beam irradiation apparatus and method specifically applicable to the treatment of cancer by reducing or eradicating cancerous tumors *in vivo*. The invention applies mixed irradiation using proton beams and X-rays which irradiate the affected area with charged particle beams, such as proton beams. The particle beam irradiation apparatus comprises a charged particle beam generation apparatus and a charged particle beam irradiation apparatus that focuses the particle beams and irradiates the irradiation object (i.e., the patient's tumor) with the particle beams emitted from the charged particle beam generation apparatus. The affected area of the patient (i.e., the cancerous area) may be irradiated by the particle beams emitted from the charged particle beam generation apparatus while the patient is lying on a bed, or the like. Thus, the apparatus and method of the invention are useful for treating cancer by enabling the more precise application of therapeutic energy to the cancer.

**CONCLUSION**

The Applicants submit that the foregoing discussion demonstrates that the present invention contributes to the treatment or prevention of cancer. Accordingly, the requirements of 37 CFR §1.102(d) and MPEP § 708.02(X) having been satisfied, the Applicants request that this Petition to Make Special be granted and that the

application be examined according to prescribed procedures set forth in MPEP

§708.02.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Colin D. Barnitz". The signature is fluid and cursive, with a large, stylized "C" and "B".

Colin D. Barnitz  
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